NATA Aptitude Section - Mock Test 3

Student Name :	
Center Name :	

Total Marks: 80	Total Time: 50 mins

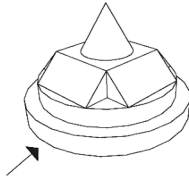**Note:** There are 40 questions. Each Question carries 2 marks. There is no negative marking

#	Question and Answer Options

1. Identify the elevation from the arrow marked.
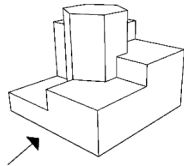
a)	b)
c)	d)

2. Identify the elevation from the arrow marked.

a)	b)
c)	d)

3. Identify the following type of window?

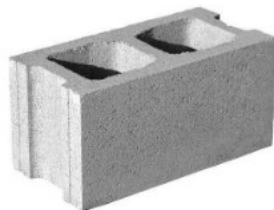| a)	Bay window
b)	dormer window
c)	casement window
d)	bow window

4. Which of the following stresses is used for identifying the quality of structural steel?

a) ultimate stress	b) yield stress	c) proof stress	d) none of these

5. Quartzite is a _____ rock.

a) siliceous	b) argillaceous	c) calcareous	d) aqueous

6. Identify the given Material image.
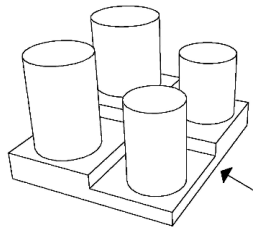

a)	Cement blocks
b)	Granite blocks
c)	Wood blocks
d)	Sandstone blocks

7. Which colour is known as Achromatic colour?

a) green to blue	b) Red to blue	c) Black to white	d) yellow to green

8. Identify the elevation from the arrow marked.

a)		b)	
c)		d)	

9. Which of the following is the correct 3D model for the plan given?
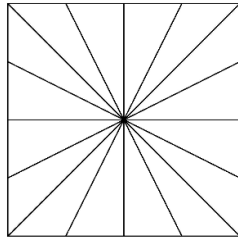
a)		b)	
c)		d)	

10. The dome of rashtrapati bhavan is influenced by?

a)	Gurdwara
b)	temple
c)	mosque
d)	stupa

11. Identify the given image?

a)	Jodhpur
b)	Varanasi
c)	Rameshwaram
d)	Allahabad

12. Identify the material given below

a)	MDF
b)	Particle board
c)	veneer
d)	fibre board

13. Identify the correct elevation.
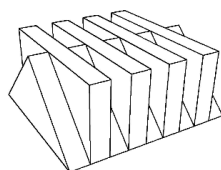
a)		b)	
c)		d)	

14. Identify the 3D Object from the elevation given.
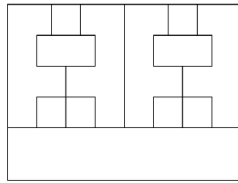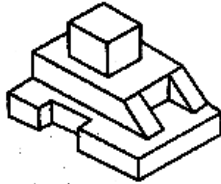
	a)	b)
	c)	d)

15. Which of the following architect does many fluidic building types?

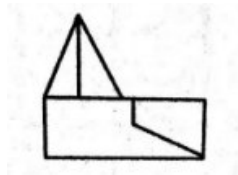| a) Zaha Hadid	b) Charles correa	c) Le corbusier	d) Raj rewal

16. Identify the top view from the given figure.

a)	b)
c)	d)

17. The problem figure shows the top view of an object; identify the front view from amongst the answer figure.
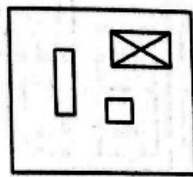
a)	b)
c)	d)

18. The problem figure shows elevation of an object; identify the correct view from amongst answer figures.
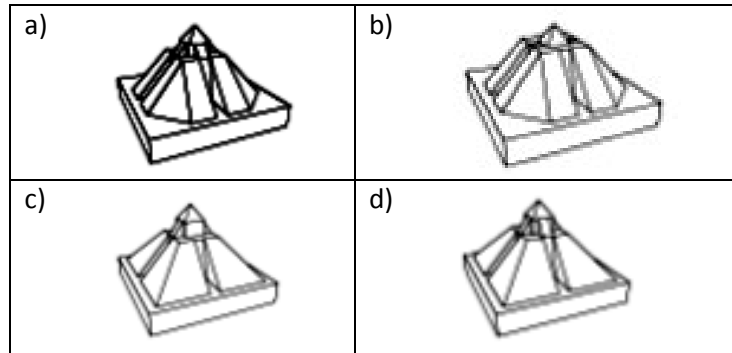
a)	b)
c)	d)

19. Identify the given image.

a)	Minaret of Medan's Grand Mosque
b)	Minaret of Great Mosque of Kairouan
c)	Minaret of National Mosque of Malaysia
d)	The Ghawanima Minaret

20. The problem figure shows elevation of an object; identify the correct view from amongst answer figures.
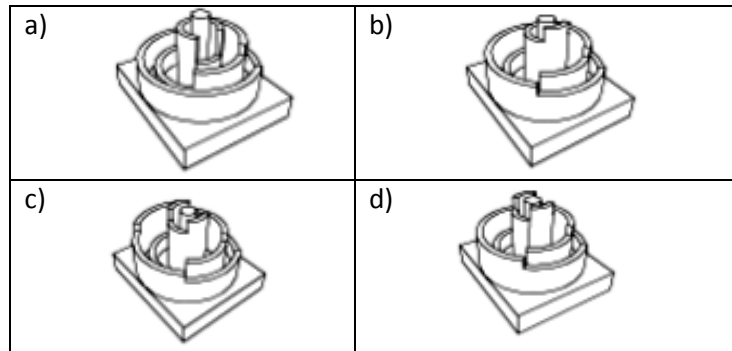

| a) | b) |
| c) | d) |
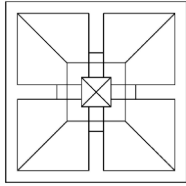
21. Identify the correct elevation.

| a) | b) |
| c) | d) |
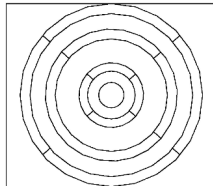
22. Who is winner of aga khan award for architecture 2017?

| a) | Architectural League of New York | b) | Hutong Children's Library & Art Centre Beijing |
| c) | Tabiat Pedestrian Bridge, Tehran Iran | d) | none of the above |

23. Identify the following architectural organisation logo?

a)	The American institute of architects
b)	Royal Institute of British Architects
c)	Boston Society of Architects
d)	National Council of Architectural Registration Boards

24. Which of the following would be the shadow cast by the object at 3:00 pm?

a)	b)	c)	d)
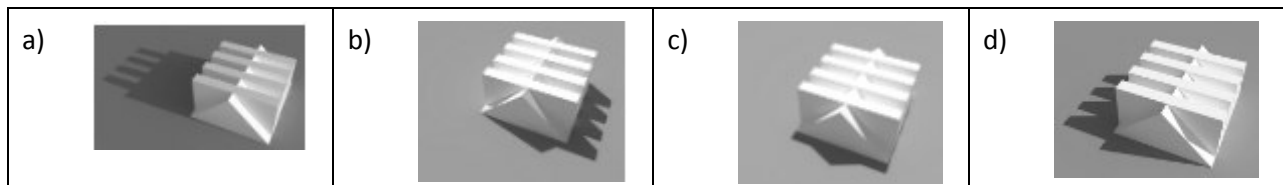
25. Identify the following material?
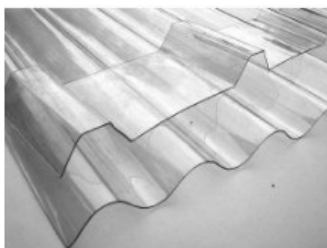
a)	fiber reinforced plastic
b)	fiber cement boards
c)	gypsum board
d)	none of the above

26. Identify the following architecture motif?

a)	architrave
b)	abacus
c)	frieze
d)	shaft

27. Identify the 3D object from the plan given.

a)		b)	
c)		d)	

28. Identify the 3D object from the plan given.
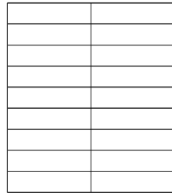
a)		b)	
c)		d)	

29. Great bath belongs to which period ?
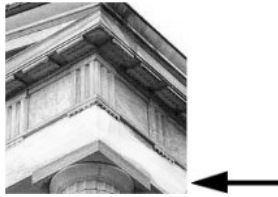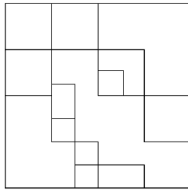
a)	Medieval period	b)	Indus valley
c)	Harappa and Mohenjo Daro	d)	None of the above

30. Find elevation of following 3D object.
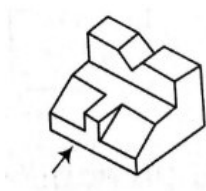
a)		b)	
c)		d)	

31. Find the correct shadow from following options.
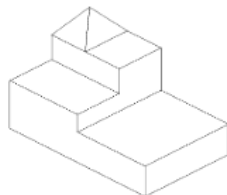
a)		b)	
c)		d)	

32. Rib Vault, Pointed Arch, Tinted/stained glass windows and flying buttresses are key features of which type of Architecture style?

a)	Renaissance Architecture style	b)	Dravidian Architecture style
c)	Gothic Architecture style	d)	Islamic Architecture style

33. Find out the total number of surfaces of the object given below.
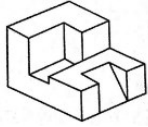
| a) | 18 | b) | 13 |
| c) | 14 | d) | 16 |

34. Identify the following types of wall used for dam construction?

a)	Retaining wall
b)	cavity wall
c)	precast wall
d)	curtain wall

35. Colonnade is a row of columns generally supporting an_____.

| a) Entablature | b) Cornice | c) Corbel | d) Abacus |

NATA Drawing Section

Q.1.	You are an ant on top of a cupboard in a corner of a classroom in a secondary school. The cupboard is situated at the front of the class, next to the teacher and board. You are looking from the front of the class to the back of the class. You are facing North. It is 4.30pm and the school day is about to end. Sun Rays are coming in from the windows on the side. The class has about 20 students sitting on benches. The cupboard is about 5 feet high. You can see the students, teacher, desks, books, school bags, board and other things you see in a classroom. Develop a color sketch of what you see with light shade and shadows.	Marks: **55**	Time: 65 mins
Q.2.	Create an interesting composition using kettle, computer mouse, 2 big books kept on a table. Render using appropriate light shade and shadow.	Marks: 35	Time: 35 mins
Q.3.	Make a 2d composition using the shapes of the dinner set. Use minimum 5 shapes. Colour using a double split complementary colour scheme.	Marks: 35	Time: 35 mins

NATA Maths Section

1. The value of k such that the lines $2x - 3y + k = 0$, $3x - 4y - 13 = 0$ and $8x - 11y - 33 = 0$ are concurrent, is

a) 20	b) -7	c) 7	d) -20

2. The solution of the differential equation $\frac{dy}{dx} = \frac{x-2y+1}{2x-4y}$ is

a) $(x - 2y)^2 + 2x = c$	b) $(x - 2y)^2 + x = c$	c) $(x - 2y) + 2x^2 = c$	d) $(x - 2y) + x^2 = c$

3. If $\begin{bmatrix} 1 & -2 \\ 4 & 5 \end{bmatrix}$ and $f(t) = t^2 - 3t + 7$, then $f(A) + \begin{bmatrix} 3 & 6 \\ -12 & -9 \end{bmatrix}$ is equal to

a) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	b) $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$	c) $\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$	d) $\begin{bmatrix} 1 & 1 \\ 0 & 0 \end{bmatrix}$

4. The number of ways of arranging 8 men and 4 women around a circular table such that no two women can sit together, is

a) 8!	b) 4!	c) 8! 4!	d) $7!\ ^8P_4$

5. If two angles of $\triangle ABC$ are 45° and 60°, then the ratio of the smallest and the greatest sides are

a) $\left(\sqrt{3}-1\right):1$	b) $\sqrt{3}:\sqrt{2}$	c) $1:\sqrt{3}$	d) $\sqrt{3}:1$

6. The nitrogen atom shows a maximum covalency of

a) six	b) five	c) four	d) three

7. According to molecular orbital theory, which of the following will not exist?

a) H_2^+	b) Be_2	c) B_2	d) C_2

8. Kinetic energy of molecules is highest in

a) Gases	b) Liquids	c) Solids	d) Solutions

9. For n moles of ideal gas, the equation of state may be written as

a) $PT/n = RV$	b) $PV = (RT)^2$	c) $P/T = nR/V$	d) $PV = RT/n$.

10. If pressure becomes double at the same absolute temperature of 2 L CO_2, then the volume of CO_2 become.

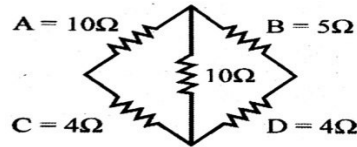| a) 2 L	b) 4 L	c) 25 L	d) 1 L

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11. The resistances in the left and right gaps of a metre bridge are 10 and 30 respectively. If the bridge is balanced, then the distance of the null point from the centre of the wire is

a)	20 cm	b)	30 cm	c)	40 cm	d)	25 cm

12. In a typical wheatstone network, the resistances in cyclic order are $A = 10\,\Omega$, $B = 5\,\Omega$, $D = 4\,\Omega$ and $C = 4\,\Omega$. For the bridge to be balanced.

a)	10 should be connected in series with A	b)	5 should be connected in series with B
c)	5 should be connected in parallel with B	d)	10 should be connected in parallel with A

13. In a potentiometer experiment, the null point is obtained at 140 cm for a cell of e.m.f. 1.2 V. With another cell of unknown e.m.f., the null point is obtained at 210 cm. The unknown e.m.f is

a)	1.5 V	b)	1.6 V	c)	1.8 V	d)	2 V

14. A potentiometer wire of length 400 cm has a resistance of 8 . If a potential gradient of 0.5 V/m is maintained throughout the length of the wire, then the current flowing through the wire is

a)	0.5 A	b)	0.25 A	c)	1 A	d)	0.75 A

15. If the length of a potentiometer wire is increased by keeping constant potential difference across the wire, then

a)	the null point is obtained at larger distance	b)	there is no change in the null point
c)	the potential gradient is increased	d)	the null point is obtained at shorter distance